

WHAT IS CLAIMED IS:

1. A sound masking system for controlling the ambient noise level in a physical environment, said sound masking system comprising:
 - (a) a communication network spanning at least a portion of said physical environment;
 - (b) a plurality of sound masking units, some of said sound masking units including a sound masking component for generating a sound masking output signal and said sound masking units including a communication interface for coupling said sound masking units to said communication network for receiving control signals over said communication network;
 - (c) a control unit, said control unit having a communication interface for coupling said control unit to said communication network for transmitting control signals over said communication network to said sound masking units, and said control signals including signals for selectively controlling the operation of said sound masking units.
2. The sound masking system as claimed in claim 1, wherein said communication interface comprises an address component for recognizing control signals intended for the sound masking unit associated with said address component.
3. The sound masking system as claimed in claim 2, wherein said control unit includes an address generator for assigning addresses to said sound masking units.
4. The sound masking system as claimed in claim 3, wherein said address generator comprises a component for generating a logical address for each of said sound masking units, and said logical address being derived from an identifier associated with each of said sound masking units.

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5. The sound masking system as claimed in claim 2, wherein said sound masking unit includes a control component, said control component being responsive to at least some of said control signals for controlling characteristics of said sound masking output signal.
6. The sound masking system as claimed in claim 5, wherein said controllable characteristics of said sound masking output signal include a variable contour characteristic.
7. The sound masking system as claimed in claim 5, wherein said controllable characteristics of said sound masking output signal include a variable gain characteristic.
8. The sound masking system as claimed in claim 5, wherein said controllable characteristics of said sound masking output signal include a variable frequency characteristic.
9. The sound masking system as claimed in claim 5, wherein said controllable characteristics of said sound masking output signal include a paging volume characteristic.
10. The sound masking system as claimed in claim 1, further including a computer, and said control unit having a communication interface for receiving adjustment signals from said computer, and said control unit including a component for converting said adjustment signals into control signals for controlling characteristics of said sound masking output signal.
11. The sound masking system as claimed in claim 10, wherein said sound masking units include an equalizer for adjusting spectral characteristics of said sound masking output signal in response to a spectral control signal.

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12. The sound masking system as claimed in claim 11, wherein said computer includes a component for receiving sound level readings for the physical environment and a component for generating an equalizer adjustment signal derived from said sound level readings, and said control unit being responsive to said equalizer adjustment signal for generating said spectral control signal.

13. The sound masking system as claimed in claim 12, wherein said component for receiving sound level readings comprises a microphone.

14. The sound masking system as claimed in claim 1, wherein said control unit comprises a computer, and said computer including a component for receiving sound level readings for the physical environment and a component for generating a spectrum adjustment command in response to said sound level readings, and said computer transmitting said spectrum adjustment command to one or more of said sound masking units for adjusting the spectrum of said sound masking signal.

16. The sound masking system as claimed in claim 10, wherein said computer includes a component for receiving sound level readings for the physical environment and a component for generating a volume level adjustment signal and said control unit being responsive to said volume level adjustment signal for adjusting the volume of said sound masking signal.

17. The sound masking system as claimed in claim 10, wherein said computer includes a component for receiving sound level readings for the physical environment and a component for generating a paging volume adjustment signal and said control unit being responsive to said paging volume adjustment signal for adjusting the paging volume.

18. The sound masking system as claimed in claim 1, further including a paging component, said paging component comprising a plurality of input ports

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for receiving a plurality of paging signals, and a selector coupled to said input ports for selecting one or more of said paging signals and a routing component for routing said selected paging signals over said communication network and one or more of said sound masking units inputting one of said selected paging signals for announcement in response to a control command received from said control unit.

19. The sound masking system as claimed in claim 18, wherein said control command is transmitted to a plurality of sound masking units to define a paging zone, and said paging zone defining a destination for one of said selected paging signals.

20. The sound masking system as claimed in claim 2, further including a paging component, said paging component comprising a plurality of input ports for receiving a plurality of paging signals, and a selector coupled to said input ports for selecting one or more of said paging signals and a routing component for routing said selected paging signals over said communication network for selection by one or more of said sound masking units for announcement.

21. A sound masking system for shaping the ambient noise level in a physical environment, the sound masking system comprises:

(a) a communication network spanning at least a portion of said physical environment;

(b) a plurality of sound masking units, some of said sound masking units including a sound masking circuit for generating a sound masking output signal for shaping the ambient noise level in the vicinity of each of said sound masking units, a programmable controller for controlling operation of said sound masking circuit, and a communication interface for coupling said sound masking units to said communication network, and said programmable controller being coupled to said communication network for receiving control signals from said communication network for altering the operation of said sound masking circuit;

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(c) a control unit, said control unit having a communication interface for coupling said control unit to said communication network for transmitting control signals over said communication network to said sound masking units, and said control signals including signals for controlling the operation of at least some of said sound masking units;

(d) wherein said sound masking circuit comprises a random noise generating component for generating an incoherent signal output, an equalizer component for receiving the incoherent signal output and generating an incoherent signal output with a predetermined contour, and an output amplifier for amplifying said contour incoherent signal output, and said programmable controller including a component for altering the contour of said incoherent signal output in response to a control command from said control unit.

22. The sound masking system as claimed in claim 21, wherein said sound masking circuit comprises an equalizer component for receiving the incoherent signal output and generating an incoherent signal output with programmable spectral characteristics in response to a control command from said programmable controller.

23. The sound masking system as claimed in claim 22, wherein said control unit comprises a computer, and said computer including a component for receiving sound level readings for the physical environment and a component for generating a spectrum adjustment command in response to said sound level readings, and said computer transmitting said spectrum adjustment command to one or more of said sound masking units for adjusting the spectrum of said sound masking signal.

24. The sound masking system as claimed in claim 21, wherein said communication interface comprises an address component for recognizing control signals intended for the sound masking unit associated with said address component, and said programmable controller including a component for decoding said control signals and applying one or more of said decoded signals

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for controlling operation of said sound masking circuit.

25. A networked paging system comprising:

(a) a communication network spanning at least a portion of said physical environment;

(b) a plurality of speaker units, said speaker units including a communication interface for coupling said speaker units to said communication network, said communication interface having an address component for recognizing control signals and a paging signal for announcement at said speaker unit intended for the speaker unit associated with said address component;

(c) a control unit having a communication interface for coupling said control unit to said communication network for transmitting control signals over said communication network to said speaker units associated with said address component, and said control signals including signals for selectively controlling the operation of said speaker units;

(d) said control unit including an address generator for assigning addresses to said speaker units.

26. The networked paging system as claimed in claim 25, wherein said address generator comprises a component for generating a logical address for each of said speaker units, and said logical address being derived from an identifier associated with each of said speaker units.

27. The networked paging system as claimed in claim 26, further including a paging signal component, said paging signal component comprising a plurality of input ports for receiving a plurality of paging signals, and a selector coupled to said input ports for selecting one or more of said paging signals and inserting the selected paging signals into communication channels for transmission over said communication network to said speaker units, and said speaker units selecting one of said paging signals according to a control command received from said control unit.

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28. The networked paging system as claimed in claim 27, wherein said control unit includes a component for defining a paging zone comprising a number of speaker units, and said speaker units belonging to said paging zone receiving a control message from said control unit for selecting one of said paging signals in the communication channels transmitted over said communication network.

29. A housing enclosure for a sound masking unit, said housing enclosure comprising:

- (a) an inner housing component having a plurality of interior openings for receiving electrical connectors, said openings being spaced around the circumference of said inner housing component;
- (b) an outer housing component having a plurality of exterior openings for receiving said electrical connectors, said exterior openings being spaced around the circumference of said outer housing component;
- (c) said inner housing component and said outer housing component being rotatably engageable so that some of said interior openings and some of said exterior openings register to provide apertures for said electrical connectors for coupling to a circuit board located in said inner housing component; and
- (d) a fastener for fastening said outer housing component to said inner housing component.

30. The housing enclosure as claimed in claim 31, wherein said interior openings and said exterior openings are asymmetrically spaced.